FACULTAT DE VETERINÀRIA

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OBJECTIVES:

- ◊ **Brief historical review.**
- ◊ **Recognizing uses and indications for THR .**
- ◊ **Summarizing the different kind of prosthesis.**
- ◊ **Recalling on the common surgical complications .**

INTRODUCTION

THR is a common method used as a treatment of many hip arthropathologies in dogs. The initial model of prosthesis was simple, basically compounded by: an acetabular component and a femoral **fixed metal component -head and vastagus in one piece-** both of them fixed by a cement in their own anatomic localizations, e.g "Richards Canine II" (cemented). **Cementless prosthesis appeared in the 80's. In the 90's Biomedtrix launched the modern modular cemented prosthesis.**

"***The main objective in all instances has been to improve the survival of the implant in the long term, a goal shared by all surgeons***" **(Harris, 2009), as well as avoiding post-surgical complications** trying to adapt each prosthesis for each case.

WHEN ARE HIP PROSTHESIS NEEDED?

- ◊ **Osteoarthrosis secundary to dysplasia.**
- ◊ Chronic or traumatic hip luxation.
- ◊ Femoral head comminuted fractures.
- ◊ Failed excision arthroplasties.
- ◊ Avascular necrosis of femoral head.

THR PATIENTS

SMALL AND LARGE DOGS

AGE AND BONE MATURITY

SYSTEMIC DISEASES

HYBRIDS:

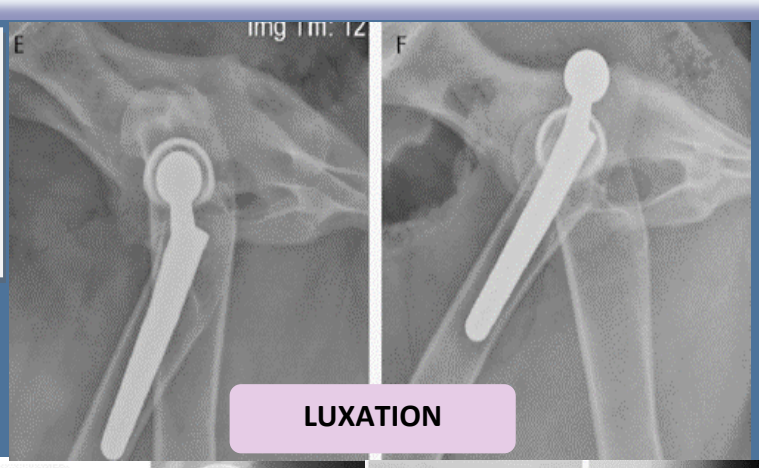
CEMENTLESS ACETABULAR COMPONENT

+

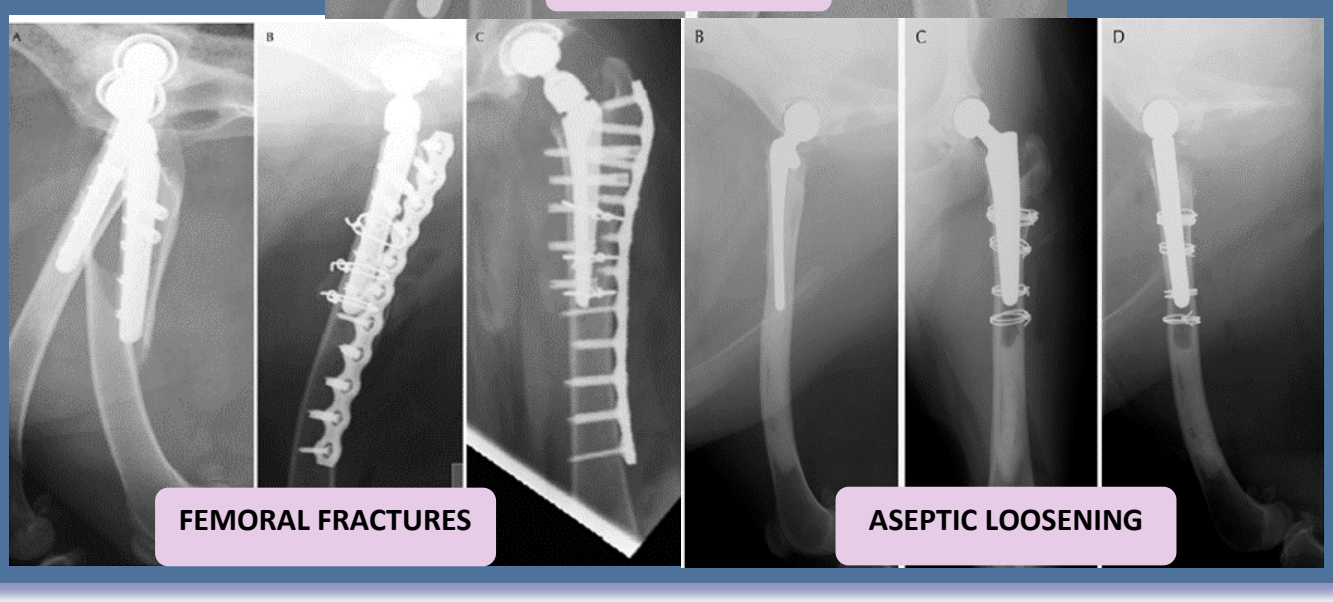
CEMENTED FEMORAL STEM

Table 1. ADVANTAGES AND DISADVANTAGES OF CEMENTED AND CEMENTLESS THR PROSTHESIS	ADVANTAGES	DISADVANTAGES
CEMENTED : ◊ **Bone cement:** Polymethyl methacrylate **(PMMA).**	Immediate strong fixation. Earlier fixation and pain relief. Copius references and study cases. Antibiotic may be added to the bone cement. Low-rate of complications. Less precision technique. Preferred for poor bone quality or advanced age.	" Cement disease": granulomatous response. Cement cracking causes implant loosening. Less satisfactory long-term fixation. Problems with acetabular component.
CEMENTLESS: ◊ **Coats with porous material** ◊ **Screws or press-fit**	Long-lasting fixation Low incidence of thromboembolism Easier replacement of acetabular cup Easier fixation procedure for acetabullum Preferred in young patients.	Loosening and tigh pain. Difficult extraction of the stem with porous coated More costous Obesity is a risk factor for the failure of cementless cups.

MOST COMMON COMPLICATIONS IN THR



LUXATION



FEMORAL FRACTURES

ASEPTIC LOOSENING

CONCLUSIONS

- ◊ Evolution: **one piece to modular hip prosthesis.**
- ◊ **Valid treatment** method for many painful hip pathologies in dogs, as osteoartrosis secondary to dysplasia.
- ◊ Important **pre-surgical examination** in order to **identify the best indicated patients.**
- ◊ Mainly divided in three genres: **cemented, cementless and hybrids.**
- ◊ Intraoperatory or postoperatory **complications may arise**, as: femoral fractures, luxation or aseptic loosening among the most common ones.
- ◊ **Further research must be carried out** in order to overcome the current issues showed by THR.

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